



SEQUENCE LISTING

<110> Childrens Hospital
Schwarz, Margaret A.

<120> METHODS OF FACILITATING VASCULAR GROWTH IN CARDIAC MUSCLE AND
METHODS FOR THE PRODUCTION OF RECOMBINANT EMAP II

<130> 9022-20

<140> US 09/733,306

<141> 2000-12-08

<150> US 60/171,874

<151> 1999-12-23

<150> US 60/197,558

<151> 2000-04-17

<150> US 60/231,759

<151> 2000-09-12

<150> US 60/241,138

<151> 2000-10-17

<160> 4

<170> PatentIn version 3.2

<210> 1

<211> 14

<212> PRT

<213> Artificial sequence

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<223> Synthetic polypeptide

<400> 1

Cys Asp Ala Phe Pro Gly Glu Pro Asp Lys Glu Leu Asn Pro
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<210> 2

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<212> DNA

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<221> CDS

<222> (64) .. (993)

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aag atg gca acg aat gat gct gtt ctg aag agg ctg gag cag aag ggt 108

Met	Ala	Thr	Asn	Asp	Ala	Val	Leu	Lys	Arg	Leu	Glu	Gln	Lys	Gly		
1				5					10					15		
gca	gag	gcg	gat	cag	atc	atc	gaa	tat	ctc	aag	cag	cag	gtt	gct	ctt	156
Ala	Glu	Ala	Asp	Gln	Ile	Ile	Glu	Tyr	Leu	Lys	Gln	Gln	Val	Ala	Leu	
				20					25					30		
ctt	aag	gag	aaa	gca	att	ttg	cag	gca	aca	atg	aga	gaa	gaa	aag	aaa	204
Leu	Lys	Glu	Lys	Ala	Ile	Leu	Gln	Ala	Thr	Met	Arg	Glu	Glu	Lys	Lys	
			35					40					45			
ctt	cga	gtt	gaa	aat	gct	aaa	ctg	aaa	aaa	gaa	ata	gaa	gag	cta	aag	252
Leu	Arg	Val	Glu	Asn	Ala	Lys	Leu	Lys	Lys	Glu	Ile	Glu	Glu	Leu	Lys	
		50					55					60				
caa	gag	ctg	att	ctg	gca	gaa	att	cat	aac	gga	gtg	gag	caa	gtg	cgt	300
Gln	Glu	Leu	Ile	Leu	Ala	Glu	Ile	His	Asn	Gly	Val	Glu	Gln	Val	Arg	
	65					70					75					
gtt	cga	ttg	agt	act	cca	ctg	cag	acg	aac	tgt	act	gct	tct	gaa	agt	348
Val	Arg	Leu	Ser	Thr	Pro	Leu	Gln	Thr	Asn	Cys	Thr	Ala	Ser	Glu	Ser	
80					85					90					95	
gtg	gtg	cag	tct	cca	tca	gta	gca	acc	acc	gcc	tct	cct	gct	aca	aaa	396
Val	Val	Gln	Ser	Pro	Ser	Val	Ala	Thr	Thr	Ala	Ser	Pro	Ala	Thr	Lys	
				100					105					110		
gag	cag	atc	aaa	gcg	gga	gaa	gaa	aag	aag	gtg	aaa	gag	aag	act	gaa	444
Glu	Gln	Ile	Lys	Ala	Gly	Glu	Glu	Lys	Lys	Val	Lys	Glu	Lys	Thr	Glu	
			115					120					125			
aag	aaa	gga	gag	aaa	aag	gag	aag	cag	cag	tcg	gca	gca	gca	agt	act	492
Lys	Lys	Gly	Glu	Lys	Lys	Glu	Lys	Gln	Gln	Ser	Ala	Ala	Ala	Ser	Thr	
		130					135					140				
gac	tcc	aag	cct	atc	gac	gca	tcg	cgt	ctg	gat	ctt	cga	att	ggt	tgt	540
Asp	Ser	Lys	Pro	Ile	Asp	Ala	Ser	Arg	Leu	Asp	Leu	Arg	Ile	Gly	Cys	
	145					150					155					
att	gtt	act	gcc	aag	aag	cac	cct	gat	gca	gat	tca	ctg	tat	gtg	gag	588
Ile	Val	Thr	Ala	Lys	Lys	His	Pro	Asp	Ala	Asp	Ser	Leu	Tyr	Val	Glu	
160					165					170					175	
gaa	gta	gat	gtg	gga	gaa	gca	gcc	ccg	cgc	acg	gtc	gtc	agc	ggg	ctg	636
Glu	Val	Asp	Val	Gly	Glu	Ala	Ala	Pro	Arg	Thr	Val	Val	Ser	Gly	Leu	
				180					185					190		
gtg	aat	cat	gtt	cct	cta	gaa	cag	atg	caa	aat	cgt	atg	gtg	gtt	tta	684
Val	Asn	His	Val	Pro	Leu	Glu	Gln	Met	Gln	Asn	Arg	Met	Val	Val	Leu	
			195					200					205			
ctc	tgt	aat	ctg	aag	cct	gca	aag	atg	cgg	gga	gtt	ctg	tct	caa	gcc	732
Leu	Cys	Asn	Leu	Lys	Pro	Ala	Lys	Met	Arg	Gly	Val	Leu	Ser	Gln	Ala	
		210					215					220				
atg	gtg	atg	tgt	gcc	agt	tca	cca	gag	aaa	gtg	gag	att	ctg	gcc	cct	780
Met	Val	Met	Cys	Ala	Ser	Ser	Pro	Glu	Lys	Val	Glu	Ile	Leu	Ala	Pro	

225	230	235	
ccc aac ggg tcc gtt cct	ggg gac aga att act	ttt gat gct ttt cct	828
Pro Asn Gly Ser Val Pro	Gly Asp Arg Ile Thr	Phe Asp Ala Phe Pro	
240	245	250 255	
gga gag cct gac aag gag	cta aac cct aag aag aag	atc tgg gag cag	876
Gly Glu Pro Asp Lys Glu	Leu Asn Pro Lys Lys Lys	Ile Trp Glu Gln	
	260	265 270	
atc cag cct gac ctg cac	acc aat gct gag tgt gtg	gcc aca tac aaa	924
Ile Gln Pro Asp Leu His	Thr Asn Ala Glu Cys Val	Ala Thr Tyr Lys	
	275	280 285	
gga gct ccc ttt gag gtg	aag ggg aag gga gtt tgc	aga gcc caa acc	972
Gly Ala Pro Phe Glu Val	Lys Gly Lys Gly Val Cys	Arg Ala Gln Thr	
	290	295 300	
atg gcc aat agt gga att	aaa taagtgtct gtaactgaaa	gacattggcg	1023
Met Ala Asn Ser Gly Ile	Lys		
	305	310	
aaaacttaat aacaataaag agaagtgtgt ttatcactta catataaaaa aaaaaaaaaa			1083
aaa			1086

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 <212> PRT
 <213> Mus musculus

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Lys Glu Lys Ala Ile Leu Gln Ala Thr Met Arg Glu Glu Lys Lys Leu	
35 40 45	
Arg Val Glu Asn Ala Lys Leu Lys Lys Glu Ile Glu Glu Leu Lys Gln	
50 55 60	
Glu Leu Ile Leu Ala Glu Ile His Asn Gly Val Glu Gln Val Arg Val	
65 70 75 80	
Arg Leu Ser Thr Pro Leu Gln Thr Asn Cys Thr Ala Ser Glu Ser Val	
85 90 95	

Val Gln Ser Pro Ser Val Ala Thr Thr Ala Ser Pro Ala Thr Lys Glu
100 105 110

Gln Ile Lys Ala Gly Glu Glu Lys Lys Val Lys Glu Lys Thr Glu Lys
115 120 125

Lys Gly Glu Lys Lys Glu Lys Gln Gln Ser Ala Ala Ala Ser Thr Asp
130 135 140

Ser Lys Pro Ile Asp Ala Ser Arg Leu Asp Leu Arg Ile Gly Cys Ile
145 150 155 160

Val Thr Ala Lys Lys His Pro Asp Ala Asp Ser Leu Tyr Val Glu Glu
165 170 175

Val Asp Val Gly Glu Ala Ala Pro Arg Thr Val Val Ser Gly Leu Val
180 185 190

Asn His Val Pro Leu Glu Gln Met Gln Asn Arg Met Val Val Leu Leu
195 200 205

Cys Asn Leu Lys Pro Ala Lys Met Arg Gly Val Leu Ser Gln Ala Met
210 215 220

Val Met Cys Ala Ser Ser Pro Glu Lys Val Glu Ile Leu Ala Pro Pro
225 230 235 240

Asn Gly Ser Val Pro Gly Asp Arg Ile Thr Phe Asp Ala Phe Pro Gly
245 250 255

Glu Pro Asp Lys Glu Leu Asn Pro Lys Lys Lys Ile Trp Glu Gln Ile
260 265 270

Gln Pro Asp Leu His Thr Asn Ala Glu Cys Val Ala Thr Tyr Lys Gly
275 280 285

Ala Pro Phe Glu Val Lys Gly Lys Gly Val Cys Arg Ala Gln Thr Met
290 295 300

Ala Asn Ser Gly Ile Lys
305 310

<210> 4
 <211> 312
 <212> PRT
 <213> Homo sapiens

<400> 4

Met Ala Asn Asn Asp Ala Val Leu Lys Arg Leu Glu Gln Lys Gly Ala
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Glu Ala Asp Gln Ile Ile Glu Tyr Leu Lys Gln Gln Val Ser Leu Leu
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Lys Glu Lys Ala Ile Leu Gln Ala Thr Leu Arg Glu Glu Lys Lys Leu
 35 40 45

Arg Val Glu Asn Ala Lys Leu Lys Lys Glu Ile Glu Glu Leu Lys Gln
 50 55 60

Glu Leu Ile Gln Ala Glu Ile Gln Asn Gly Val Lys Gln Ile Ala Phe
 65 70 75 80

Pro Ser Gly Thr Pro Leu His Ala Asn Ser Met Val Ser Glu Asn Val
 85 90 95

Ile Gln Ser Thr Ala Val Thr Thr Val Ser Ser Gly Thr Lys Glu Gln
 100 105 110

Ile Lys Gly Gly Thr Gly Asp Glu Lys Lys Ala Lys Glu Lys Ile Glu
 115 120 125

Lys Lys Gly Glu Lys Lys Glu Lys Lys Gln Gln Ser Ile Ala Gly Ser
 130 135 140

Ala Asp Ser Lys Pro Ile Asp Val Ser Arg Leu Asp Leu Arg Ile Gly
 145 150 155 160

Cys Ile Ile Thr Ala Arg Lys His Pro Asp Ala Asp Ser Leu Tyr Val
 165 170 175

Glu Glu Val Asp Val Gly Glu Ile Ala Pro Arg Thr Val Val Ser Gly
 180 185 190

Leu Val Asn His Val Pro Leu Glu Gln Met Gln Asn Arg Met Val Ile
 195 200 205

Leu Leu Cys Asn Leu Lys Pro Ala Lys Met Arg Gly Val Leu Ser Gln
 210 215 220

Ala Met Val Met Cys Ala Ser Ser Pro Glu Lys Ile Glu Ile Leu Ala
 225 230 235 240

Pro Pro Asn Gly Ser Val Pro Gly Asp Arg Ile Thr Phe Asp Ala Phe
 245 250 255

Pro Gly Glu Pro Asp Lys Glu Leu Asn Pro Lys Lys Lys Ile Trp Glu
 260 265 270

Gln Ile Gln Pro Asp Leu His Thr Asn Asp Glu Cys Val Ala Thr Tyr
 275 280 285

Lys Gly Val Pro Phe Glu Val Lys Gly Lys Gly Val Cys Arg Ala Gln
 290 295 300

Thr Met Ser Asn Ser Gly Ile Lys
 305 310